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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/724,327

11/28/2003

Allen Hall

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11/28/2006

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EXAMINER

NEWAY, SAMUEL G

ART UNIT

PAPER NUMBER

2192

DATE MAILED: 11/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/724,327

Applicant(s)

HALL, ALLEN

Examiner

Samuel G. Neway

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2192

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on 19 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>11/28/03</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1 – 13 are pending and are considered.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 6 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 6 recites the limitation "said space timing statistics" in the last line. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 101

4. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

5. Claim 13 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claim 13 is directed to a computer program product, which amounts to a computer program representing computer listings per se, i.e. descriptive material per se. These are not statutory because they are not capable of causing functional change in the computer.

Data structures not claimed as embodied in computer-readable media are descriptive material per se and are not statutory because they are not capable of causing functional change in the computer. See, e.g., *Warmerdam*, 33 F.3d at 1361, 31 USPQ2d at 1760 (claim to a data structure per se held nonstatutory). Such claimed data structures do not define any structural and functional interrelationships between the data structure and other claimed aspects of the invention which permit the data structure's functionality to be realized.

Similarly, computer programs claimed as computer listings per se, i.e., the descriptions or expressions of the programs, are not physical "things." They are neither computer components nor statutory processes, as they are not "acts" being performed. Such claimed computer programs do not define any structural and functional interrelationships between the computer program and other claimed elements of a computer which permit the computer program's functionality to be realized. In contrast, a claimed computer-readable medium encoded with a computer program is a computer element which defines structural and functional interrelationships between the computer program and the rest of the computer which permit the computer program's functionality to be realized, and is thus statutory. See *Lowry*, 32 F.3d at 1583-84, 32 USPQ2d at 1035. See MPEP 2106.01(I).

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1 – 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Cousins et al. (Embedded genetic allocator - A system to automatically optimize the use of memory resources in high performance, scalable computing systems, Cousins, David; Loomis, Jackson; Roeber, Fred; Schoeppner, Pamela; Tobin, Anne-Elise PROC IEEE INT CONF SYST MAN CYBERN. Vol. 3, pp. 2166-2171. 1998).

Claim1:

Cousins discloses a method and product for monitoring a computer application, comprising:

adjustably tuning performance evaluation bias between processor and memory consumption (e.g. "allocating application processing to the various processors and memory banks...", page 2166, col. 1, paragraph 2, see also page 2167, col. 2, paragraphs 1 and 2);

and responsive to said bias, monitoring performance of said computer application with respect to transaction time parameters (e.g. "allocating application processing to the various processors and memory banks...to achieve optimum performance", col. 1, page 2166, paragraph 2, see also page 2167, col. 2, paragraphs 1 and 2).

Claims 2 – 3:

Cousins discloses the method of claim 1, further comprising: receiving from a user a first tuning parameter for allocating memory for said monitoring performance and a second tuning parameter for specifying time out for in-flight units of work ("allocating application processing to the various processors and memory banks...", page 2166,

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paragraph 2, "the user to identify the data buffers to be allocated... ", page 2167, col. 2, paragraph 3).

Claims 4 – 5:

Cousins discloses the method of claim 2, further comprising:

initializing said memory with an in-flight transactions vector table for anchoring synonym chains of in-flight transaction cells ("trial blueprints are translated by EGA into input files that are automatically loaded...", page 2167, col. 1, paragraph 1);

accumulating time statistics for in-flight transactions in said in-flight transaction cells ("run-time event collection generates performance data...", page 2167, col. 1, paragraph 1);

initializing said memory with a completed transactions table for storing time statistics for completed transactions ("time-stamped events that are used to derive performance statistics", page 2168, col. 1, paragraph 2);

receiving from said computer application a transaction log record for a unit of work ("generates an event log file...", page 2168, col. 1, paragraph 2);

hashing said first transaction log record to select from said vector table an anchor to an in-flight transaction cells chain corresponding to said unit of work ("each malloc call looks up the appropriate allocation for each buffer from a table ...", page 2168, col. 1);

searching said in-flight transaction cells chain for said unit of work; responsive to finding said unit of work in said in-flight transaction cells chain, capturing to said in-flight transaction cell timing statistics from said transaction log record; responsive to not

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finding said unit of work in said in-flight transaction cells chain, chaining a new in-flight transaction cell to said chain and capturing to said new in-flight transaction cell timing statistics from said transaction log record (page 2168, col. 1, paragraph 1);

and determining if said transaction log record completes a transaction and, if so, updating said completed transactions table with timing statistics for said transaction and removing said in-flight transaction cell from said in-flight transaction cells chain (page 2168, col. 1, paragraph 2).

Claim 6:

Cousins discloses a system for monitoring a computer application, comprising:

a first user actuated tuning knob for allocating space in memory for performance monitoring ("allocating application processing to ...memory banks...", page 2166, col. 1, paragraph 2);

a second user actuated tuning knob for a specifying time out value for in-flight units of work ("allocating application processing to the various processors and ...", page 2166, col. 1, paragraph 2);

and a transaction monitor responsive to said first and second user actuated tuning knobs for accumulating in synonym chain cells ("allocating application processing to the various processors and memory banks...to achieve optimum performance", col. 1, page 2166, paragraph 2).

Claim 7:

Cousins discloses the system of claim 6, further comprising

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initializing said memory with an in-flight transactions vector table for anchoring synonym chains of in-flight transaction cells ("trial blueprints are translated by EGA into input files that are automatically loaded...", page 2167, col. 1, paragraph 1);

accumulating time statistics for in-flight transactions in said in-flight transaction cells ("run-time event collection generates performance data...", page 2167, col. 1, paragraph 1);

initializing said memory with a completed transactions table for storing time statistics for completed transactions ("time-stamped events that are used to derive performance statistics", page 2168, col. 1, paragraph 2);

receiving from said computer application a transaction log record for a unit of work ("generates an event log file...", page 2168, col. 1, paragraph 2);

hashing said first transaction log record to select from said vector table an anchor to an in-flight transaction cells chain corresponding to said unit of work ("each malloc call looks up the appropriate allocation for each buffer from a table ...", page 2168, col. 1);

searching said in-flight transaction cells chain for said unit of work; responsive to finding said unit of work in said in-flight transaction cells chain, capturing to said in-flight transaction cell timing statistics from said transaction log record; responsive to not finding said unit of work in said in-flight transaction cells chain, chaining a new in-flight transaction cell to said chain and capturing to said new in-flight transaction cell timing statistics from said transaction log record (page 2168, col. 1, paragraph 1);

and determining if said transaction log record completes a transaction and, if so, updating said completed transactions table with timing statistics for said transaction and removing said in-flight transaction cell from said in-flight transaction cells chain (page 2168, col. 1, paragraph 2).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claim 8 – 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cousins et al. (Embedded genetic allocator - A system to automatically optimize the use of memory resources in high performance, scalable computing systems, Cousins, David; Loomis, Jackson; Roeber, Fred; Schoeppner, Pamela; Tobin, Anne-Elise PROC IEEE INT CONF SYST MAN CYBERN. Vol. 3, pp. 2166-2171. 1998).

Claims 8 – 12 are directed to a program storage device embodying the method of claims 1 – 5 which Cousins discloses as noted above.

Cousins does not explicitly disclose the method being embodied on a program storage device.

However, it is old and well known in the computing arts to embody methods and processes on program storage devices such as CDs. It would have been obvious to one of ordinary skill in the art to save a program on a program storage device because it is a convenient way to store and transport programs.

Claim 13 is directed to a program product embodying the method of claims 1 which Cousins discloses as noted above.

Cousins does not explicitly disclose the method being embodied on a program product.

However, it is old and well known in the computing arts to embody methods and processes on program product. It would have been obvious to one of ordinary skill in the art to save a program on a program product because it is a convenient way to store and transport programs.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Bigus et al. (US Patent 6,718,358) discloses a system and method for performance management by adjustably tuning controls that determine resource allocations.

Reynolds et al. (US Patent 6,817,011) discloses a method and system for profiling memory allocation by requesting a memory allocation.

Kaler et al. (US Patent 6,671,830) discloses a method and apparatus for analyzing the performance of a data processing system.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Samuel G. Neway whose telephone number is 571-270-

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1058. The examiner can normally be reached on Monday - Friday 8:30AM - 5:30PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tuan Q. Dam can be reached on 571-272-3695. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

SN

SN


TUAN DAM
SUPERVISORY PATENT EXAMINER